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Pyrophosphate Protects the mAChR from  
Inactivation by the LMW Inhibitor  
(n = 3)

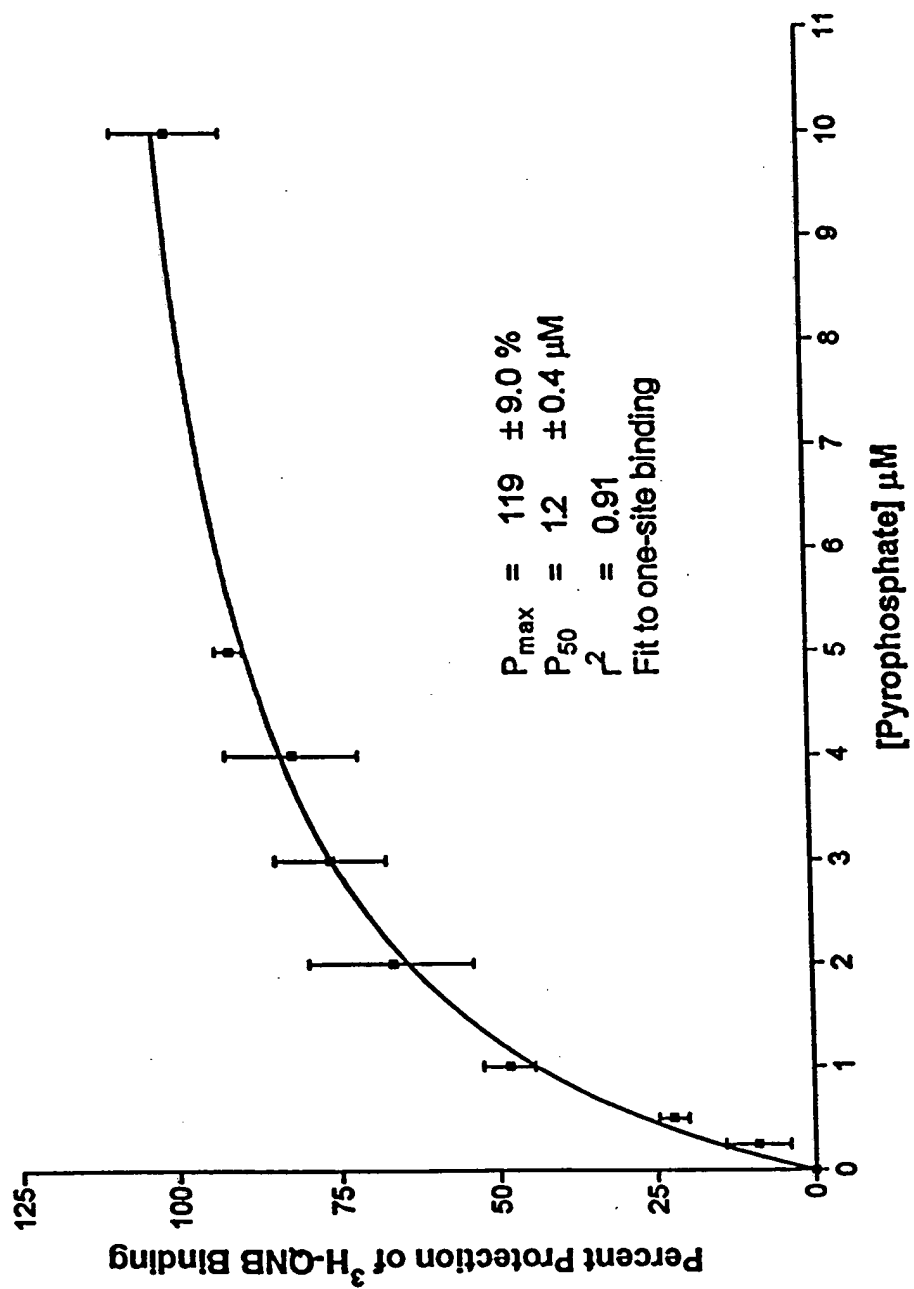


FIGURE 1



Title: METHODS AND COMPOSITIONS FOR ENHANCING CELLULAR FUNCTION  
THROUGH PROTECTION OF TISSUE COMPONENTS

Applicant: William H. Frey II, et al.

Serial No: 09/844,450

Docket No.: 1871.1-US-U1

Filed: April 27, 2001

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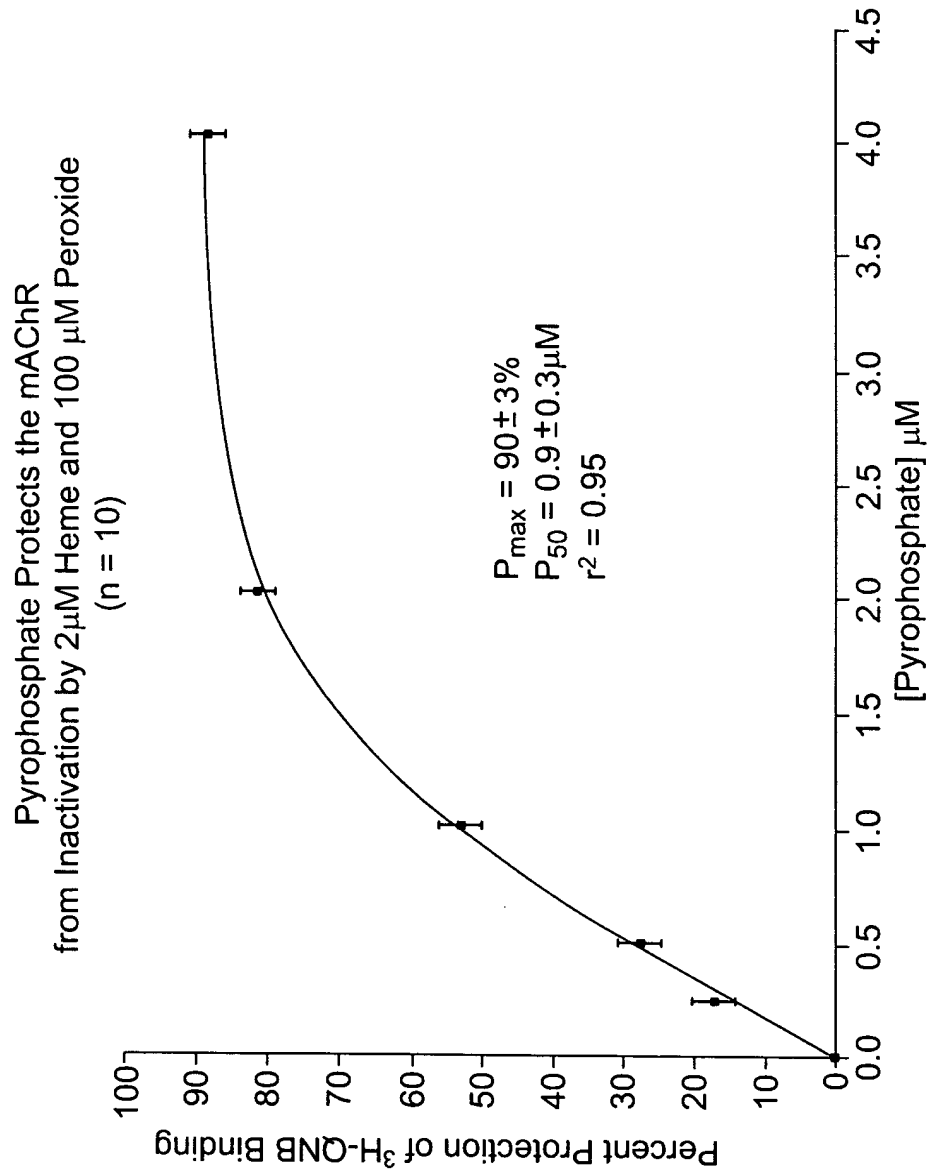


FIGURE 2



Title: METHODS AND COMPOSITIONS FOR ENHANCING CELLULAR FUNCTION  
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Pyrophosphate protects the mAChR from  
inactivation by the LMW Inhibitor in a  
2-step agonist binding assay.  
(n = 4)

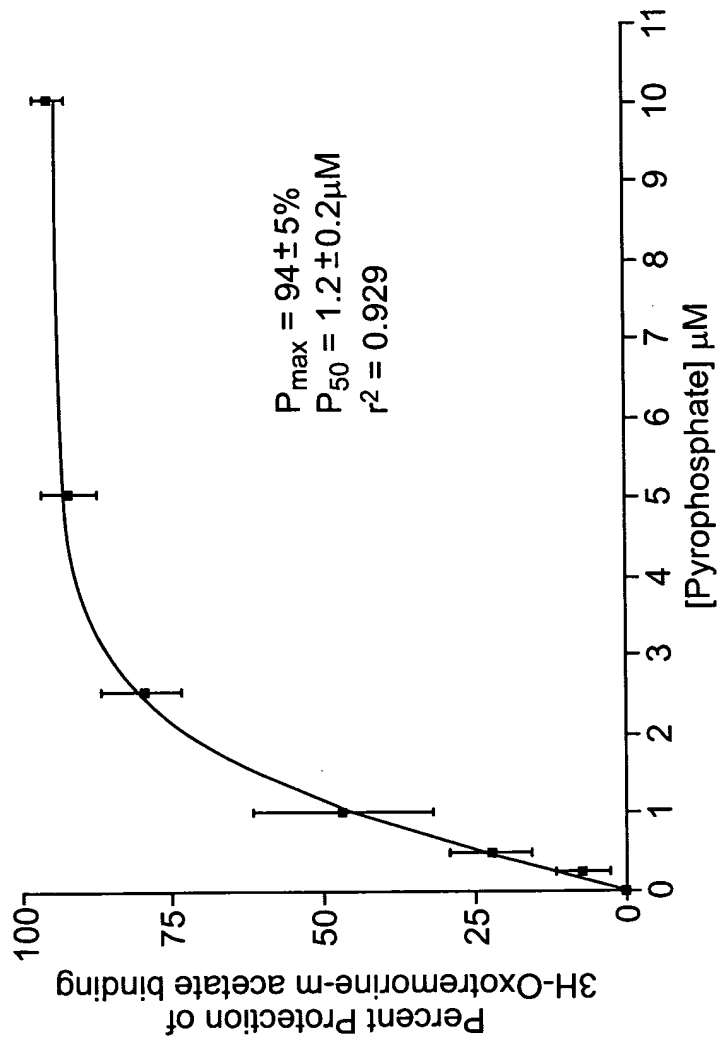


FIGURE 3



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Imidodiphosphate protects the mAChR  
from inactivation by the LMW Inhibitor  
(n = 5)

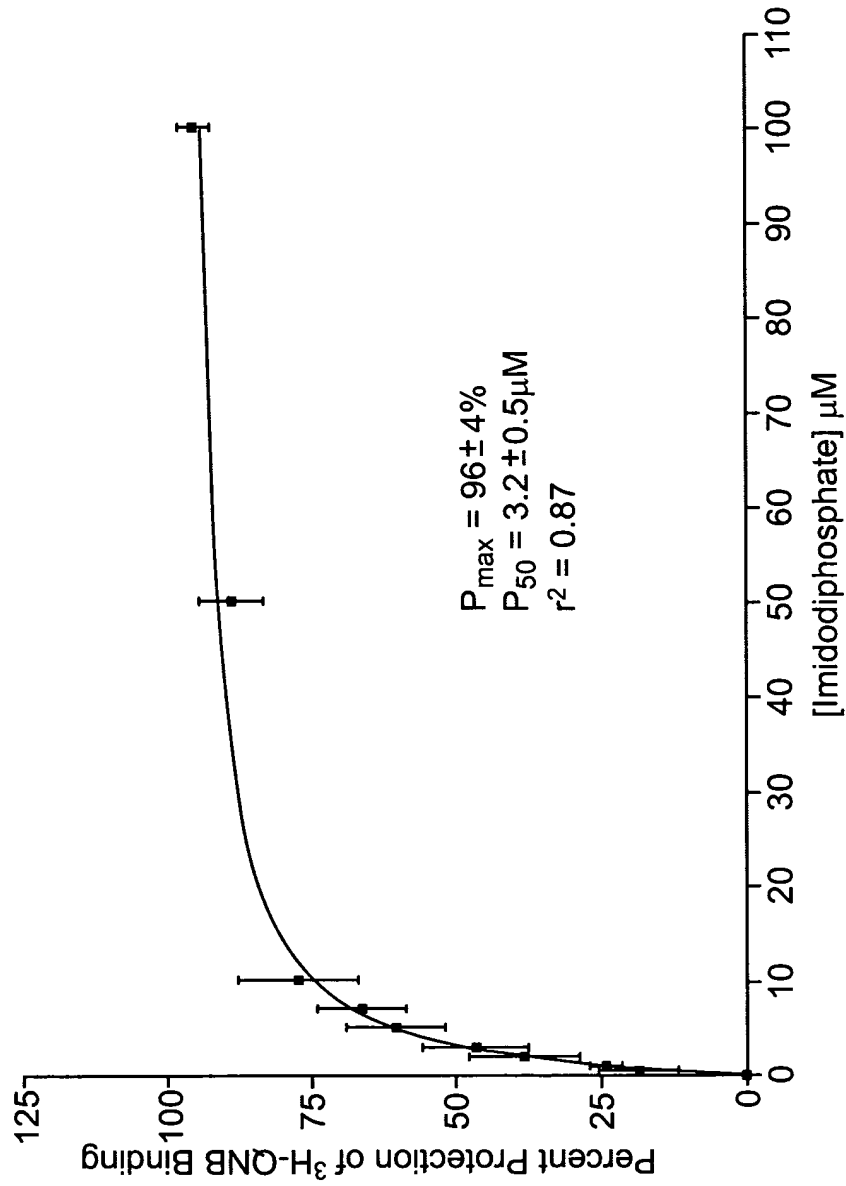


FIGURE 4



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**Guanylimidodiphosphate Protects the mAChR  
from Inactivation by the LMW Inhibitor  
(n = 4)**

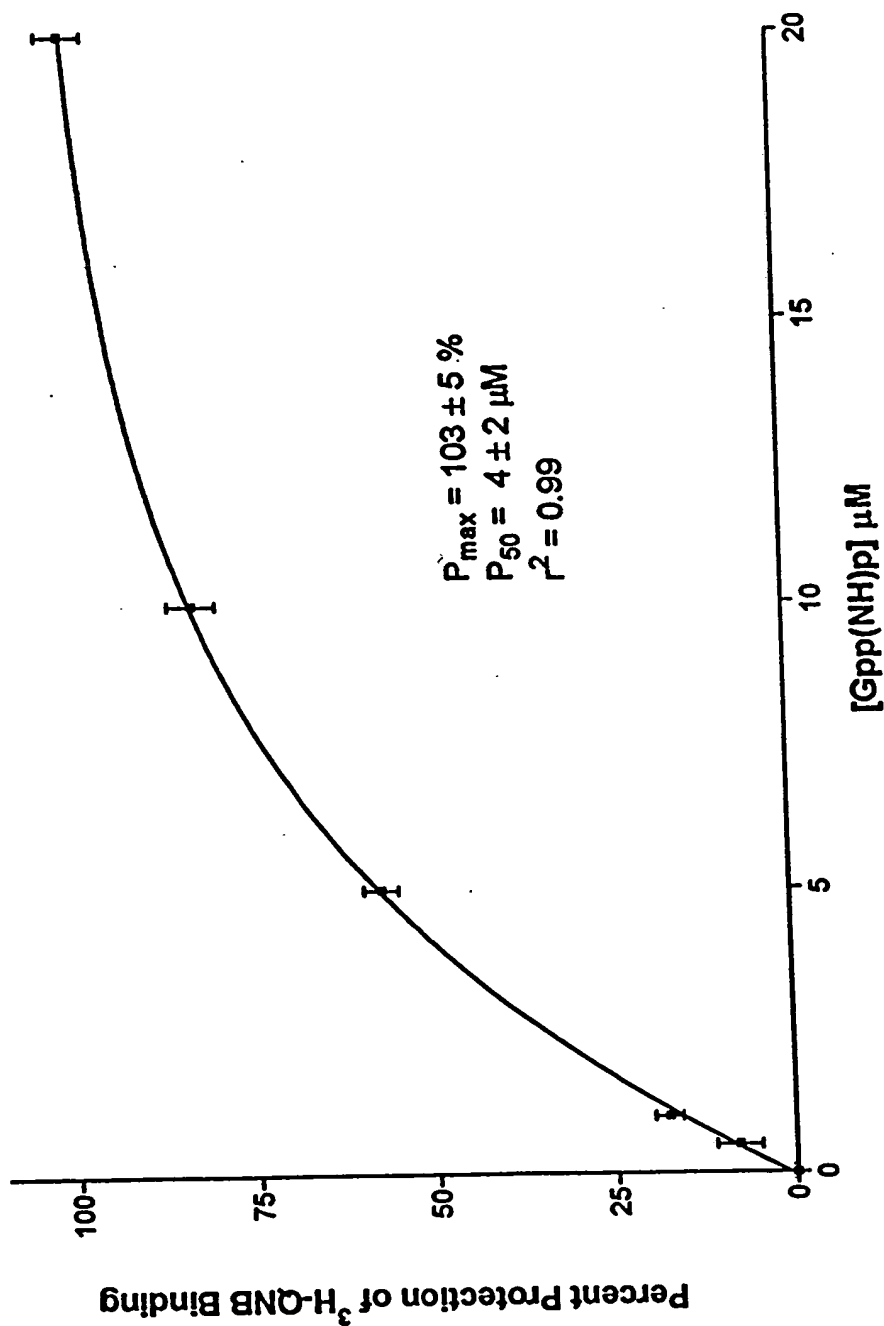


FIGURE 5



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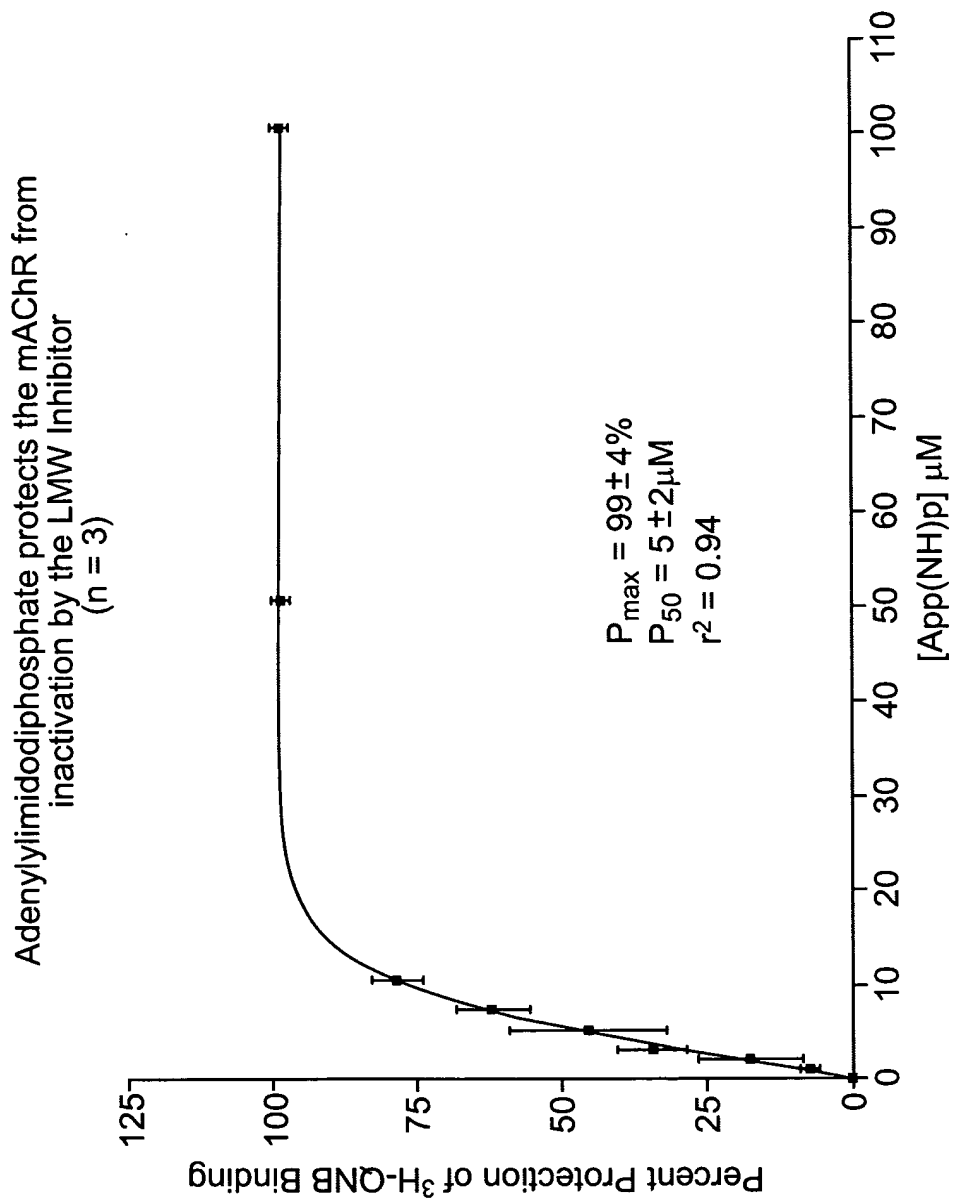


FIGURE 6



Tripolyphosphate Protects the mAChR from LMW  
Inhibitor Inactivation in Antagonist Binding Studies  
(n = 4)

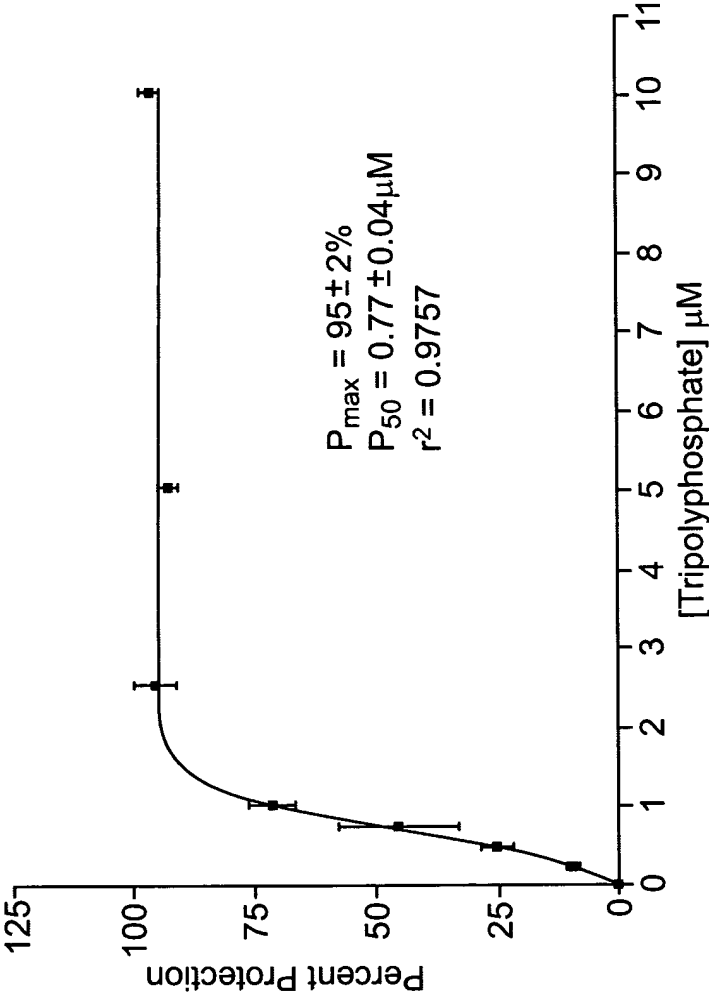


FIGURE 7



Title: METHODS AND COMPOSITIONS FOR ENHANCING CELLULAR FUNCTION  
THROUGH PROTECTION OF TISSUE COMPONENTS

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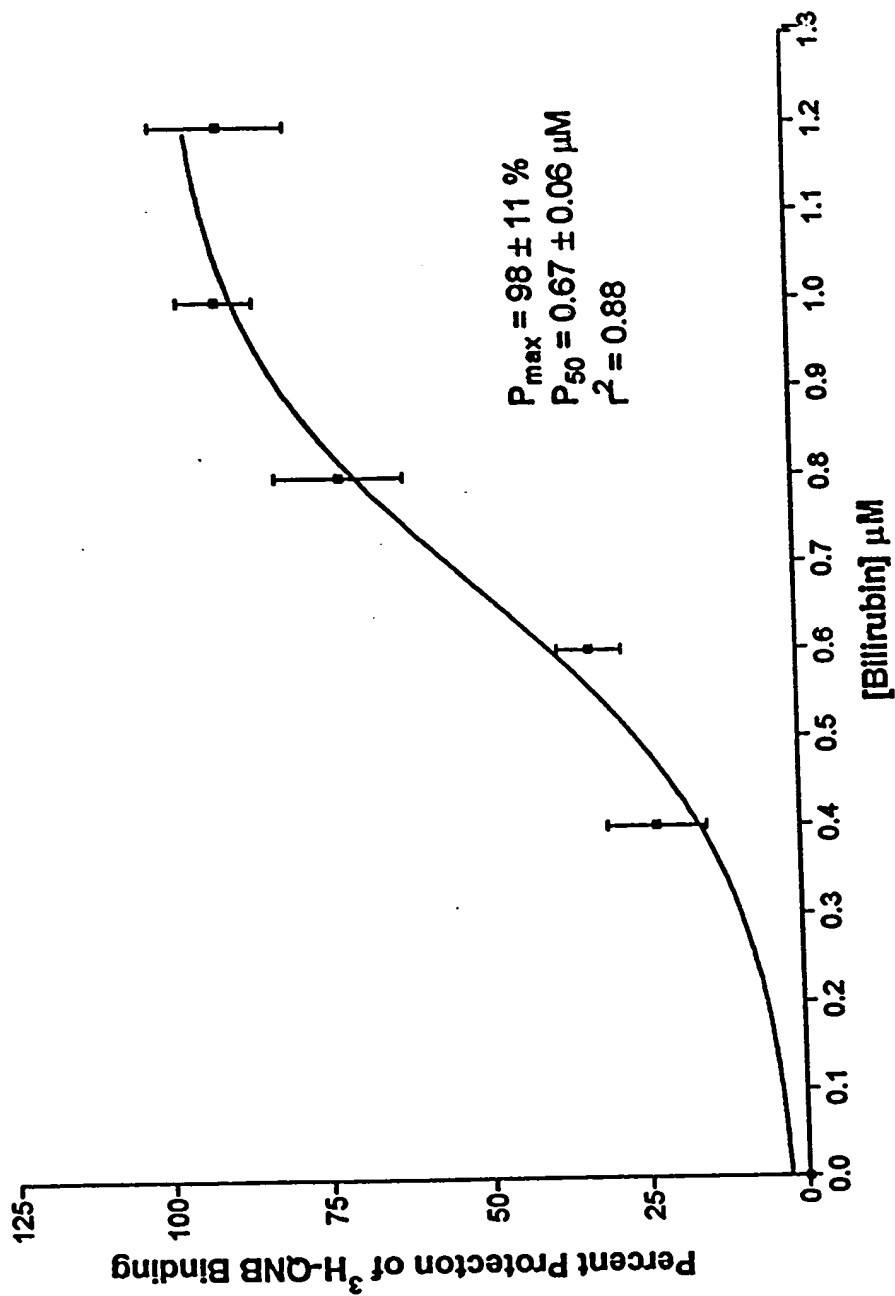
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**Bilirubin Protects the mAChR from  
Inactivation by the LMW Inhibitor  
(n = 4)**



**FIGURE 8**





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THROUGH PROTECTION OF TISSUE COMPONENTS

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**Bilirubin Protects the mACHR from  
Inactivation by 2.0  $\mu$ M Heme and 100  $\mu$ M Peroxide  
(n = 4)**

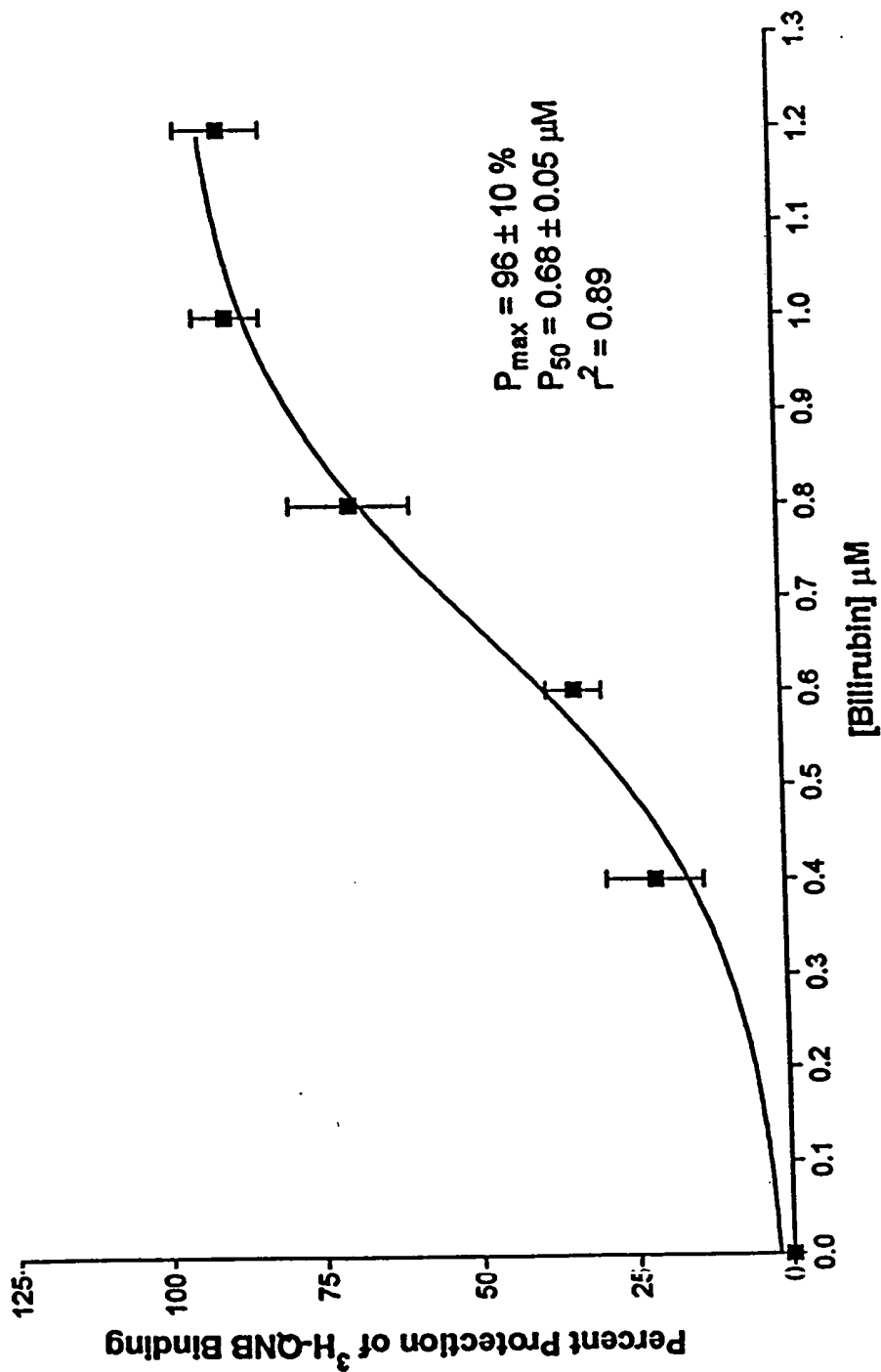


FIGURE 9



Title: METHODS AND COMPOSITIONS FOR ENHANCING CELLULAR FUNCTION  
THROUGH PROTECTION OF TISSUE COMPONENTS

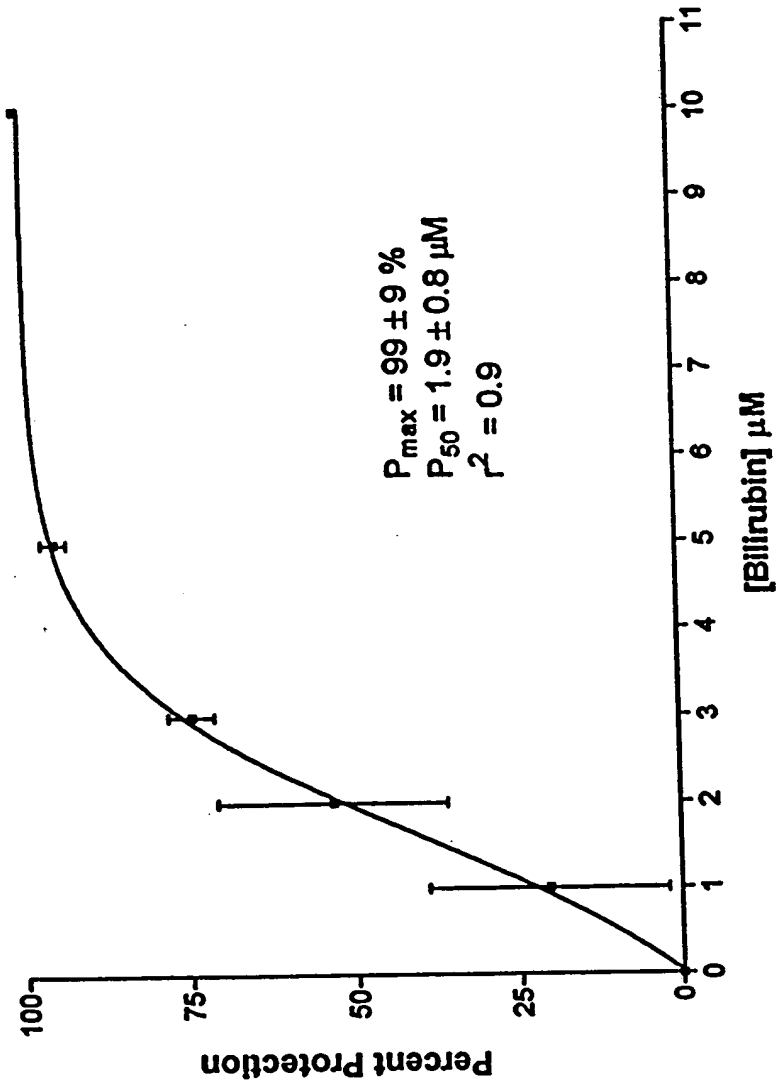
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**Bilirubin Protects the mAChR from LMW Inhibitor  
inactivation in the two step agonist (oxotremorine-m)  
binding assay  
(n = 3)**



**FIGURE 10**



Title: METHODS AND COMPOSITIONS FOR ENHANCING CELLULAR FUNCTION  
THROUGH PROTECTION OF TISSUE COMPONENTS

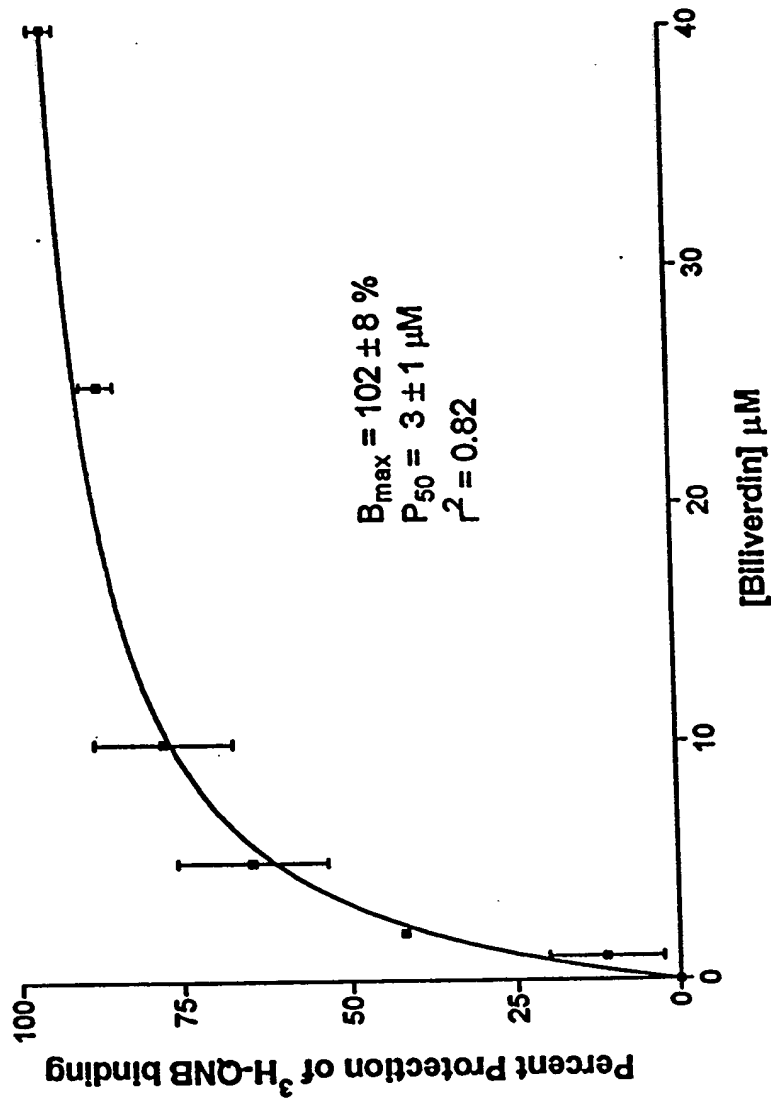
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**Biliverdin Protects the mAChR  
from Inactivation by the LMW Inhibitor  
(n = 7)**



**FIGURE 11**



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THROUGH PROTECTION OF TISSUE COMPONENTS

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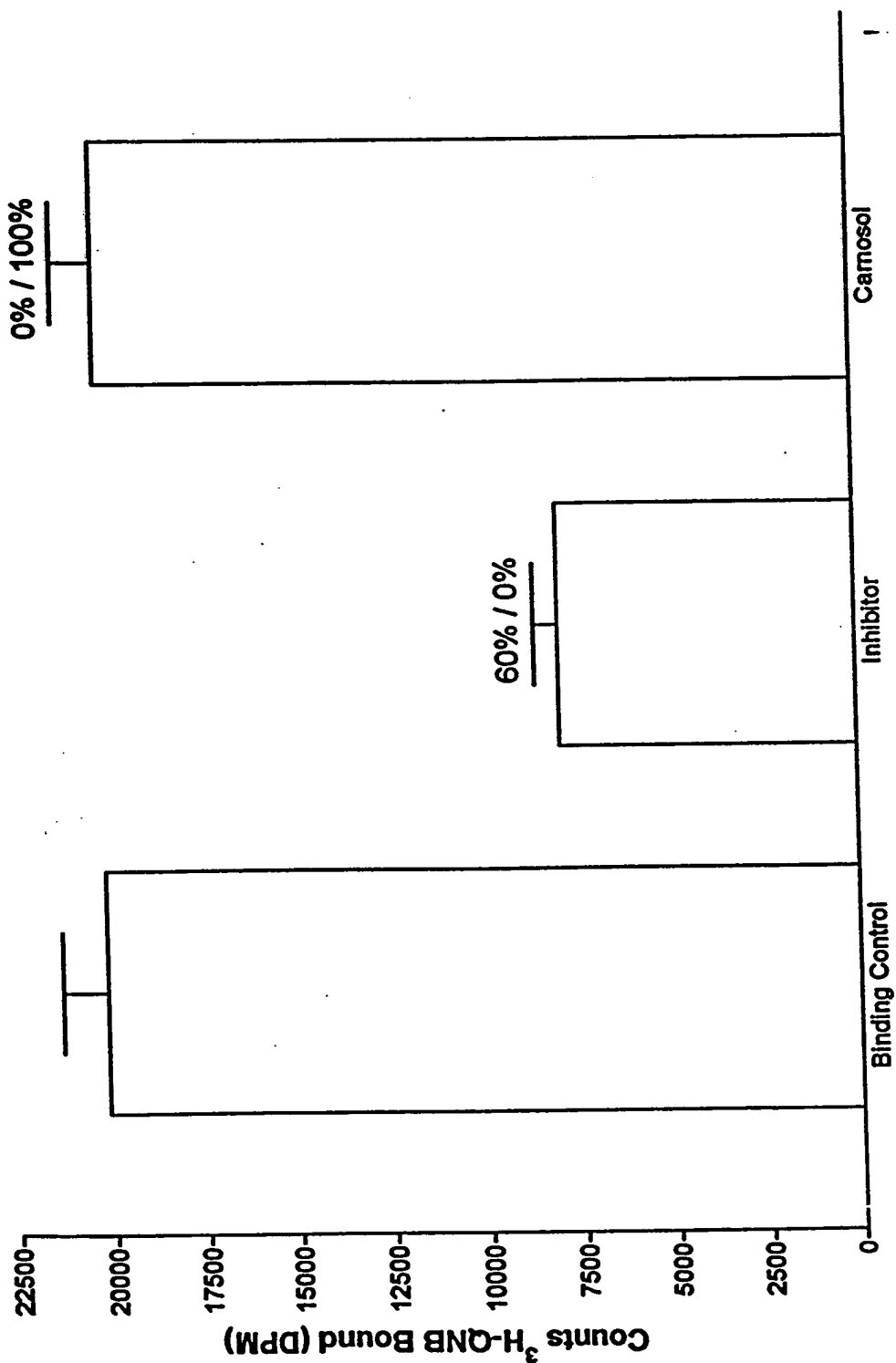
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**1 $\mu$ M Carnosol completely protects the mACHR  
from inactivation by the LMW Inhibitor.**



Percentages Represent: Percent inhibition/Percent Protection

FIGURE 12



Title: METHODS AND COMPOSITIONS FOR ENHANCING CELLULAR FUNCTION  
THROUGH PROTECTION OF TISSUE COMPONENTS

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Quercetin protects the mAChR  
from Inactivation by the LMW Inhibitor  
(n = 3)

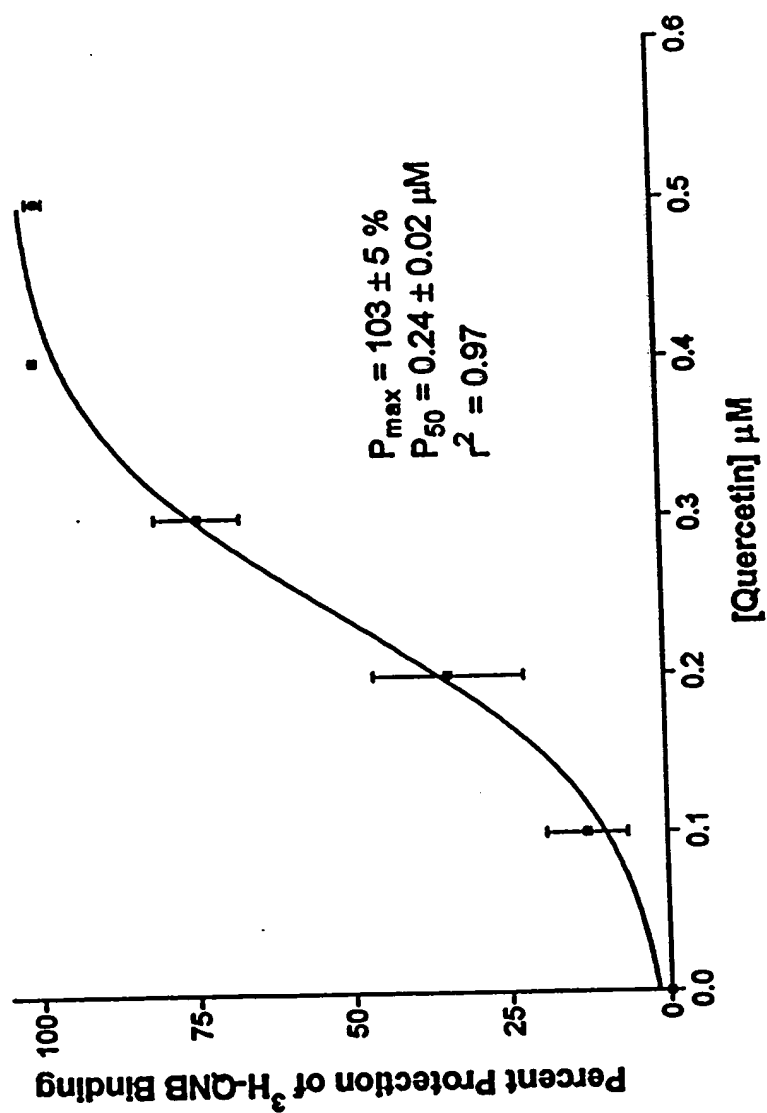


FIGURE 13



Title: METHODS AND COMPOSITIONS FOR ENHANCING CELLULAR FUNCTION  
THROUGH PROTECTION OF TISSUE COMPONENTS

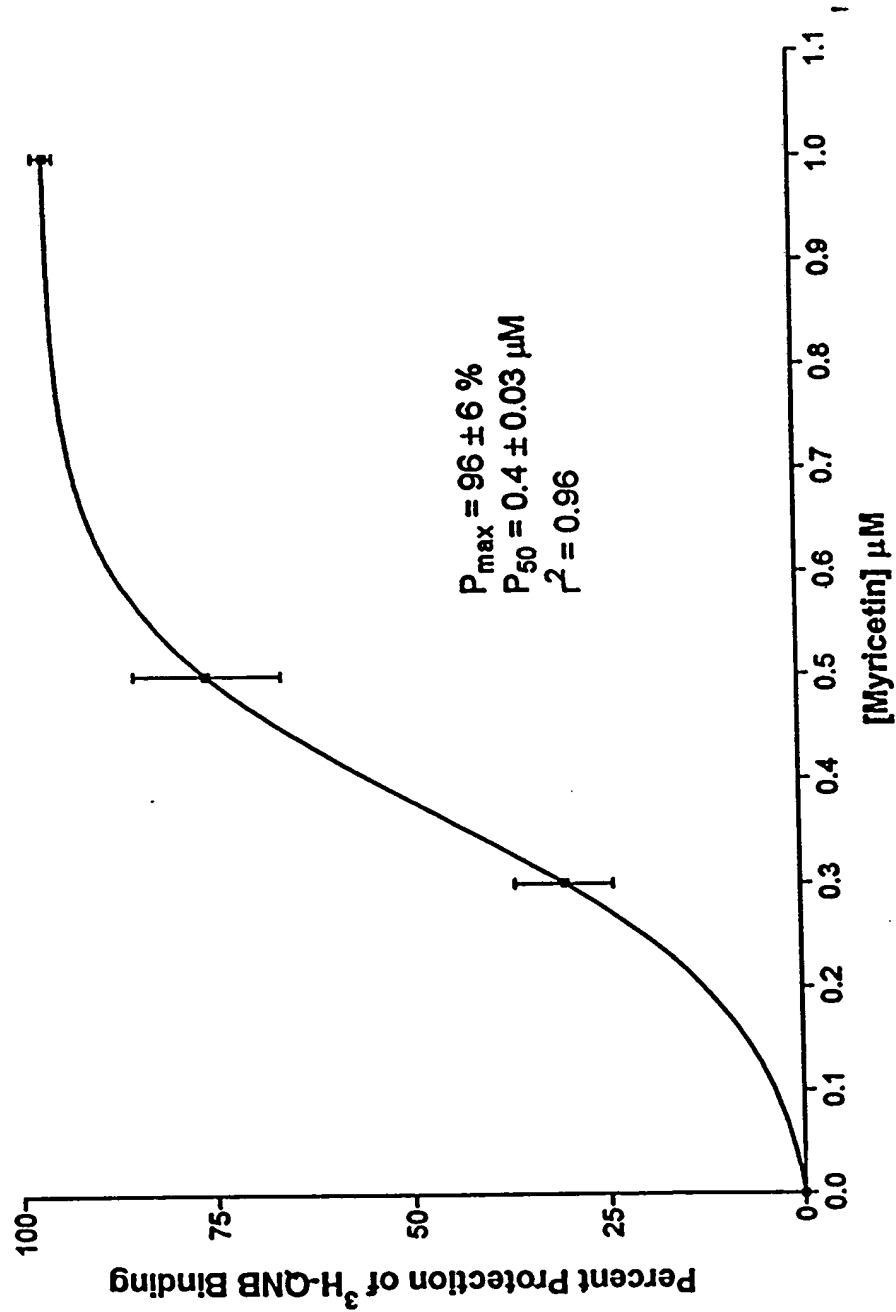
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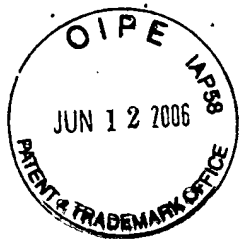
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**Myricetin Protects the mAChR  
from Inactivation by Heme and Peroxide**



**FIGURE 14**



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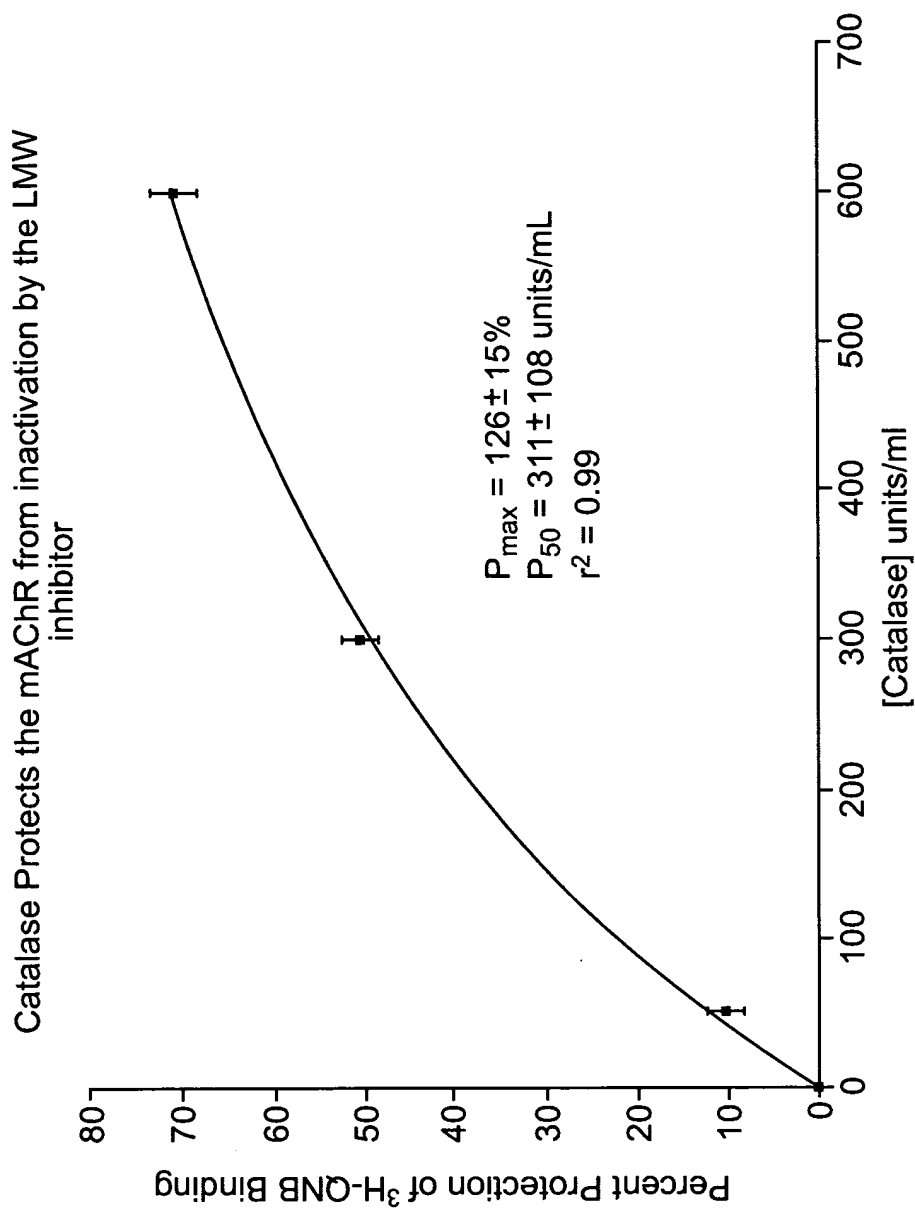


FIGURE 15



Title: METHODS AND COMPOSITIONS FOR ENHANCING CELLULAR FUNCTION  
THROUGH PROTECTION OF TISSUE COMPONENTS

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**Catalase Protects the mAChR from  
Inactivation by 2.0  $\mu$ M Heme and 100  $\mu$ M Peroxide**

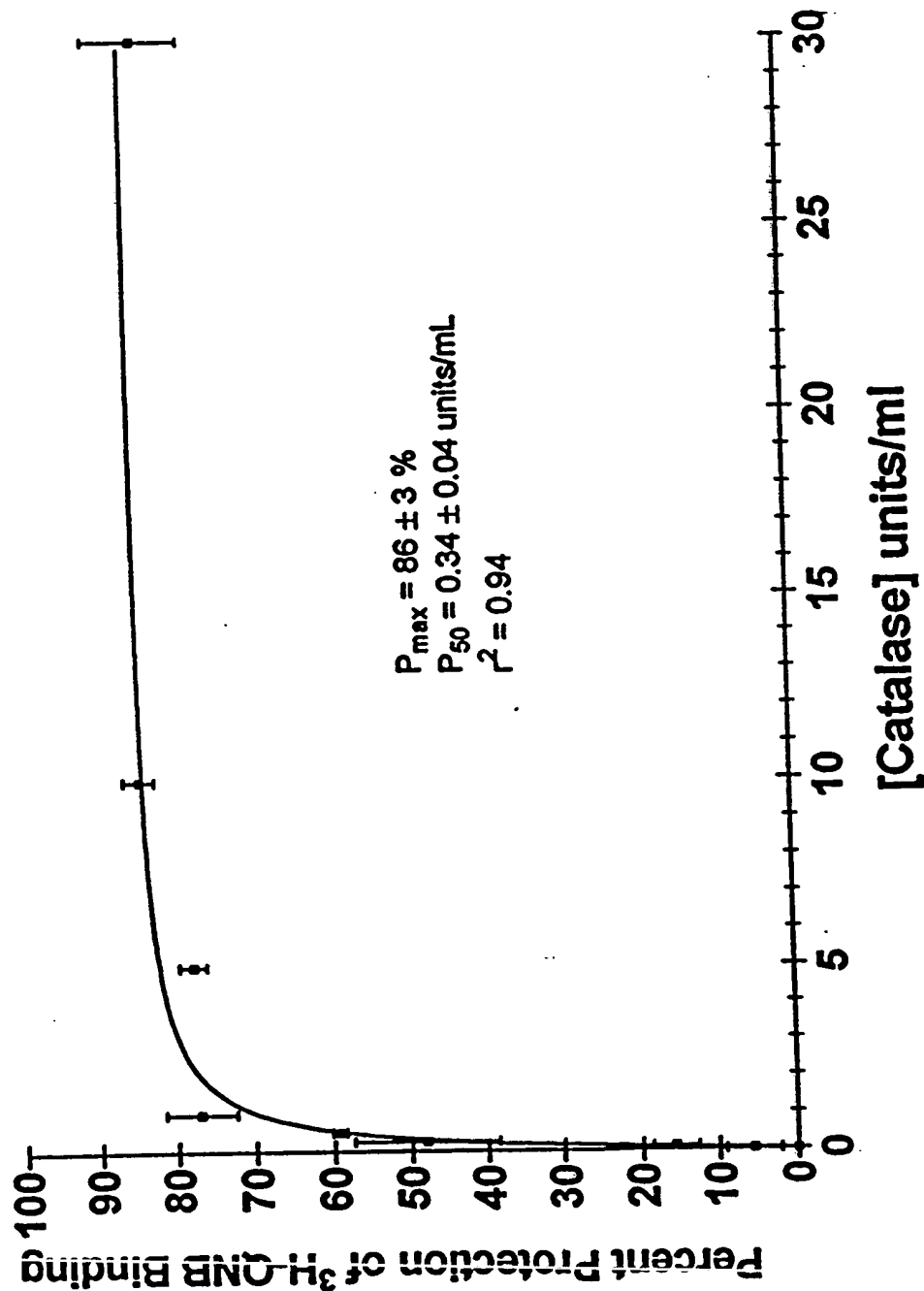
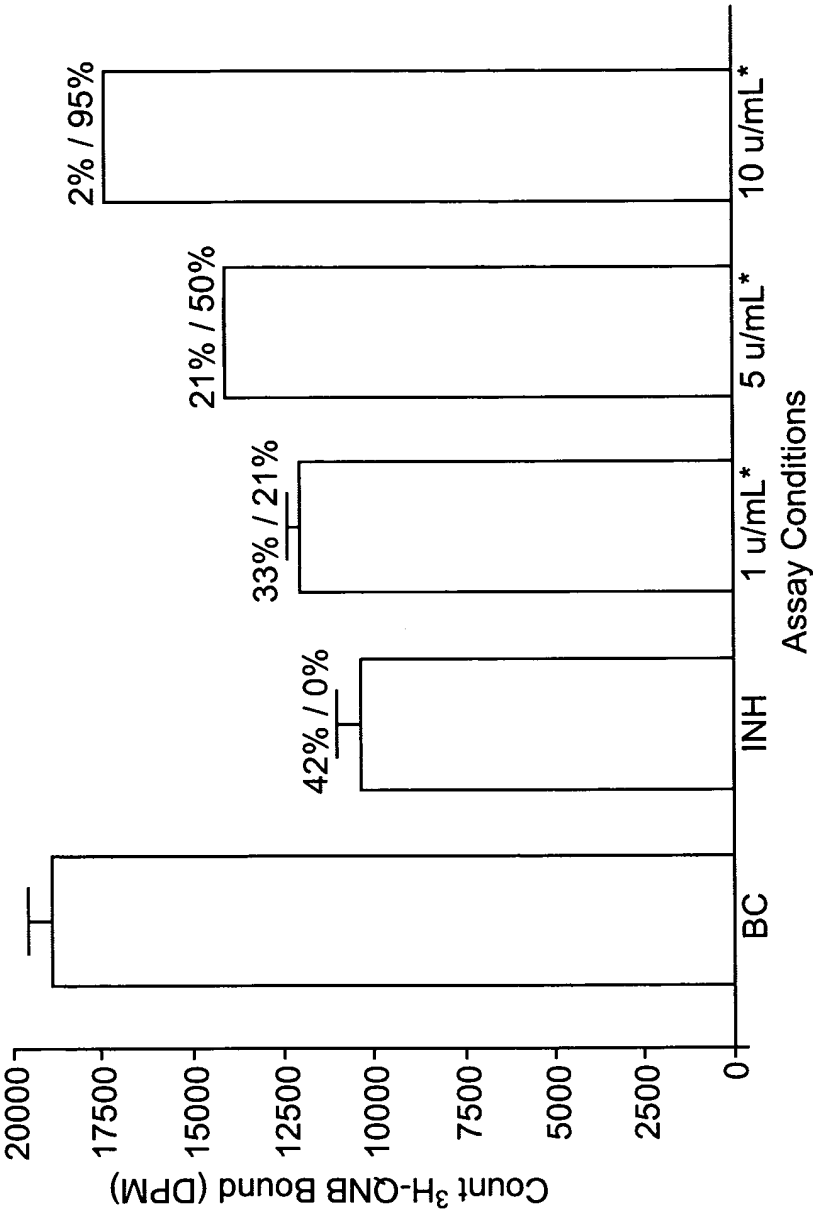


FIGURE 16





Glutathione peroxidase protects the mAChR from inactivation  
by the LMW Inhibitor



\*Glutathione peroxidase concentration in the presence of the LMW Inhibitor  
Percentages represent: Percent inhibition / Percent Protection

FIGURE 17



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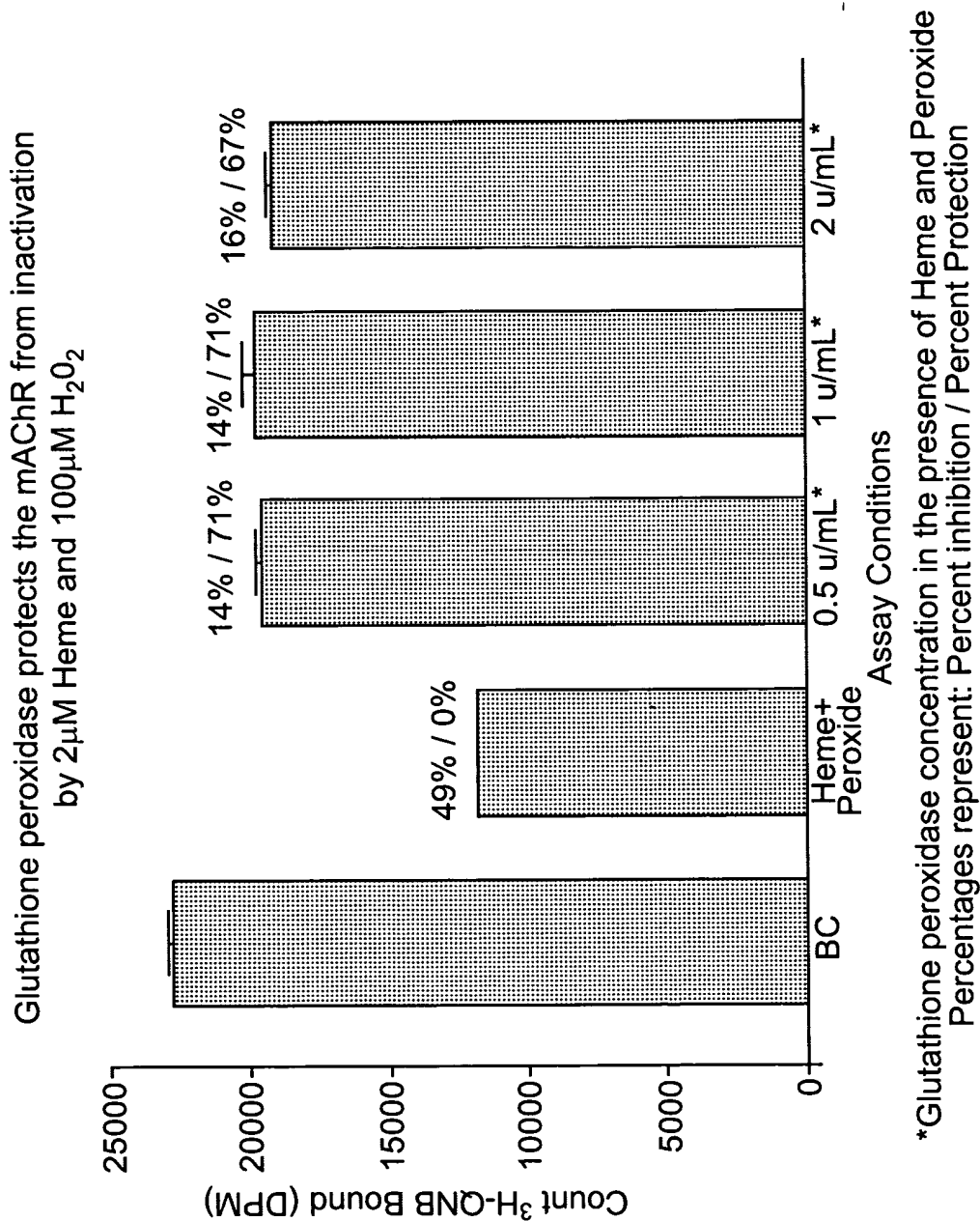
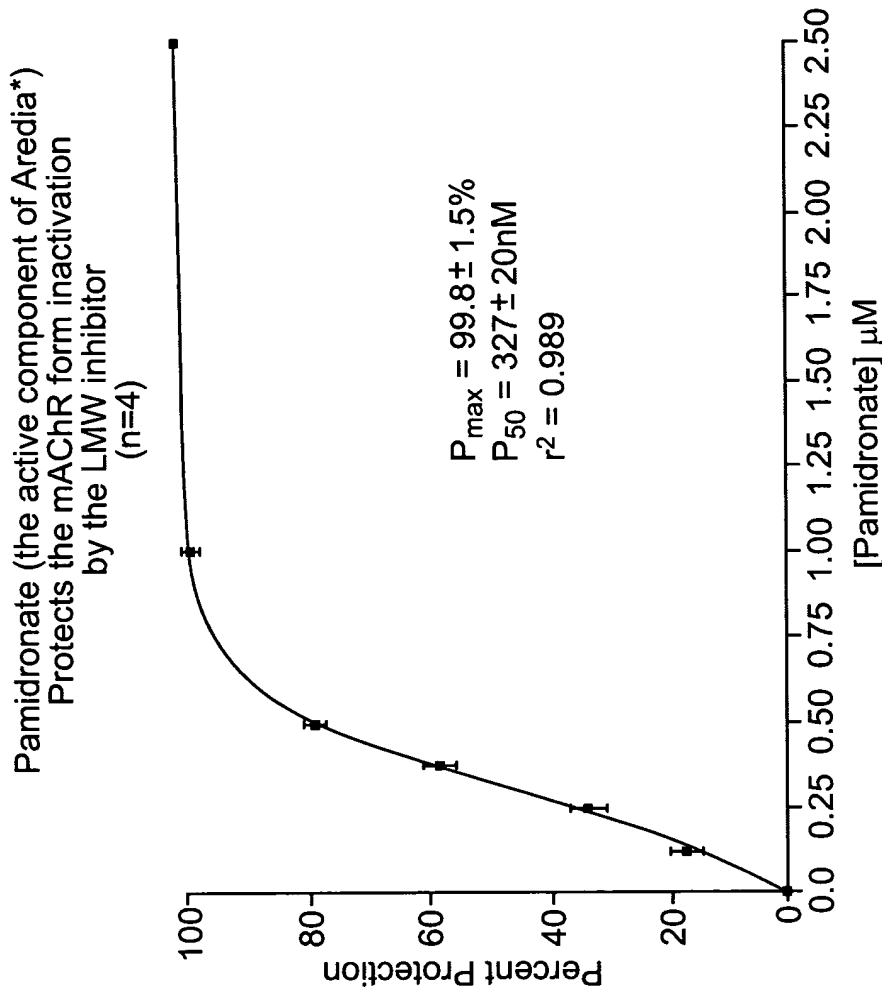
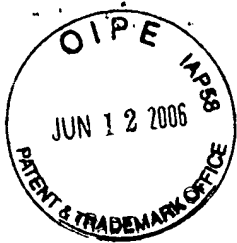


FIGURE 18



\*Aredia is a drug manufactured by Novartis and is a bone-resorption inhibitor for treatment of hypercalcemia. All assay tubes contained 7.94 mM Mannitol a component of Aredia which had no effect on binding or inhibition.

FIGURE 19



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THROUGH PROTECTION OF TISSUE COMPONENTS

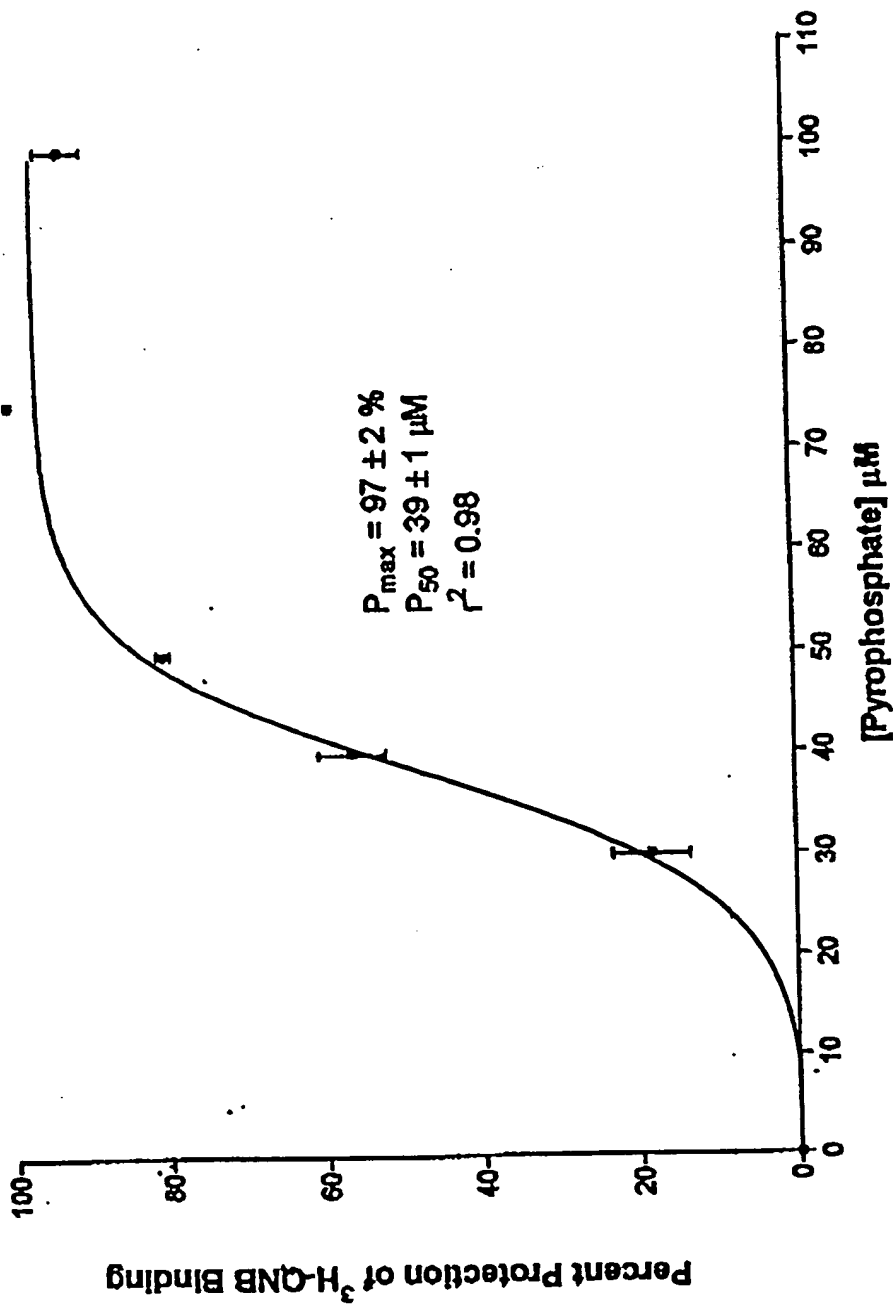
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**Pyrophosphate Protects the mAChR  
from damage by 160  $\mu$ M PbCl<sub>2</sub>**



**FIGURE 20**

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